



What is the process when creating a steady hand game?

Year 5 / 6

Term Autumn 2

Subject DT

National Curriculum Coverage	Use research and develop design criteria to inform the design of innovative, functional, appealing products that are fit for purpose, aimed at particular individuals or groups Generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer- aided design Select from and use a wider range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing], accurately Select from and use a wider range of materials and components, including construction materials, textiles and ingredients, according to their functional properties and aesthetic qualities Investigate and analyse a range of existing products Evaluate their ideas and products against their own design criteria and consider the views of others to improve their work Understand how key events and individuals in design and technology have helped shape the world Understand and use electrical systems in their products [for example, series circuits incorporating switches, bulbs, buzzers and motors]	
Key Skills		Key Knowledge
Year 5 Identify components and think it would effect the product if these components were altered. Developing design criteria based on findings from investigating existing products. Developing design criteria that clarifies the target user. Exploring altering a product's form and function by tinkering with its configuration. Making a functional series circuit.. Constructing a product with consideration for the design criteria. Breaking down the construction process into steps so that others can make the product. Carry out a product analysis to look at the purpose of a product along with its strengths and weaknesses. Determining which parts of a product affect its function and which parts affect its form. Discussing whether changes in configuration positively or negatively affect an existing product.		What does 'form' mean? What is the difference between 'form' and 'function'? What does 'fit for purpose' mean? What term do we use if a product looks good, but doesn't work very well? What is 'form follows function'? What are the different views on a diagram?
Year 6 Designing a steady hand game, identifying and naming the components required. Drawing a design from three different perspectives. Generating ideas through sketching and discussion. Modelling ideas through prototypes.		



Understanding the purpose of products (toys), including what is meant by 'fit for purpose' and 'form over function'. Constructing a stable base for a game. Accurately cutting, folding and assembling a net. Decorating the base of the game to a high-quality finish. Making and testing a circuit. Incorporating a circuit into a base. Testing their own and others' finished games, identifying what went well and making suggestions for improvement. Gathering images and information about existing children's toys. Analysing a selection of existing children's toys.		
Previous knowledge	Current Year	
Y 3 /4 - Designing a torch, giving consideration to the target audience and creating both design and success criteria focusing on features of individual design ideas. - Making a torch with a working electrical circuit and switch. - Using appropriate equipment to cut and attach materials. - Assembling a torch according to the design and success criteria. - Evaluating electrical products.	- Designing a steady hand game, identifying and naming the components required. - Drawing a design from three different perspectives. - Generating ideas through sketching and discussion. - Modelling ideas through prototypes. - Understanding the purpose of products (toys), including what is meant by 'fit for purpose' and 'form over function'. - Constructing a stable base for a game. - Accurately cutting, folding and assembling a net. - Decorating the base of the game to a high-quality finish. - Making and testing a circuit. - Incorporating a circuit into a base. - Testing their own and others' finished games, identifying what went well and making suggestions for improvement. - Gathering images and information about existing children's toys. - Analysing a selection of existing children's toys.	KS3 DT
Vocabulary: assemble, circuit, circuit symbol, conductor, component, design criteria, fit for purpose, LED		



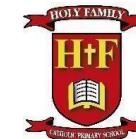
What does an effective playground structure look like? - Structures

Year 5 /6

Term Spring 2

Subject DT

National Curriculum Coverage	Use research and develop design criteria to inform the design of innovative, functional, appealing products that are fit for purpose, aimed at particular individuals or groups Generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer- aided design Select from and use a wider range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing], accurately Select from and use a wider range of materials and components, including construction materials, textiles and ingredients, according to their functional properties and aesthetic qualities Investigate and analyse a range of existing products Evaluate their ideas and products against their own design criteria and consider the views of others to improve their work Apply their understanding of how to strengthen, stiffen and reinforce more complex structures	
Key Skills		Key Knowledge
Year 5 Designing playground with different structures. Looking at a range of designs and discuss their effectiveness. Making a range of different shaped beam bridges. Using triangles to create truss bridges that span a given distance and support a load. Building a playground structure. Independently measuring and marking wood accurately. Selecting appropriate tools and equipment for particular tasks. Using the correct techniques to saw safely. Identifying where a structure needs reinforcement and using card corners for support. Explaining why selecting appropriate materials is an important part of the design process. Understanding basic wood functional properties. Adapting and improving their own playground structure by identifying points of weakness and reinforcing them as necessary. Suggesting points for improvements for own playground structures and those designed by others. Year 6 Designing a playground featuring a variety of different structures, giving consideration to how the structures will be used. Considering effective and ineffective designs. Building a range of play apparatus structures drawing upon new and prior knowledge of structures. Measuring, marking and cutting wood to create a range of structures.		What structures can be strengthened by manipulating materials and shapes? What is a 'footprint plan'? What can impact users in positive and negative ways? What is a prototype?



Using a range of materials to reinforce and add decoration to structures.
Improving a design plan based on peer evaluation.
Testing and adapting a design to improve it as it is developed.
Identifying what makes a successful structure

Previous knowledge	Current Year	Future learning
R / 1 - Learn how to select appropriate materials for a purpose - Test and investigate which materials will float or sink. - Understand how different shapes affect the way an object will move. - Sketch and design a boat for purpose. Testing their end product in water and reflecting on what could have been improved on the design. Y3 /4 - Designing a stable pavilion structure that is aesthetically pleasing and selecting materials to create a desired effect. - Building frame structures designed to support weight. - Creating a range of different shaped frame structures. - Making a variety of free-standing frame structures of different shapes and sizes. - Selecting appropriate materials to build a strong structure and for the cladding. - Reinforcing corners to strengthen a structure. - Creating a design in accordance with a plan. - Learning to create different textural effects with materials.	- Designing a playground featuring a variety of different structures, giving consideration to how the structures will be used. - Considering effective and ineffective designs. - Building a range of play apparatus structures drawing upon new and prior knowledge of structures. - Measuring, marking and cutting wood to create a range of structures. - Using a range of materials to reinforce and add decoration to structures. - Improving a design plan based on peer evaluation. - Testing and adapting a design to improve it as it is developed. - Identifying what makes a successful structure	KS3 DT

Vocabulary: apparatus, design criteria, equipment, playground, landscape features, cladding, evaluation



What materials would be best used for a stuffed toy? – Textiles

Year Year 5 / 6

Term Summer 2

Subject Design Technology

National Curriculum Coverage	• Use research and develop design criteria to inform the design of innovative, functional, appealing products that are fit for purpose, aimed at particular individuals or groups. • Generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer- aided design • Select from and use a wider range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing], accurately. • Select from and use a wider range of materials and components, including construction materials, textiles and ingredients, according to their functional properties and aesthetic qualities • Investigate and analyse a range of existing products. • Evaluate their ideas and products against their own design criteria and consider the views of others to improve their work.	
Key Skills		Key Knowledge
Year 5 Designing a stuffed toy considering the main component shapes required and creating an appropriate template. Considering the proportions of individual components. Creating a 3D stuffed toy from a 2D design. Measuring, marking and cutting fabric accurately and independently. Creating strong and secure blanket stitches when joining fabric. Threading needles independently. Using appliqué to attach pieces of fabric decoration. Sewing blanket stitch to join fabric. Applying blanket stitch so the spaces between the stitches are even and regular. Testing and evaluating an end product and giving points for further improvements. Year 6 Designing a stuffed toy in accordance to a specification linked to set of design criteria. Annotating designs, to explain their decisions. Using a template when cutting fabric to ensure they achieve the correct shape. Using pins effectively to secure a template to fabric without creases or bulges. Sewing a strong running stitch, making small, neat stitches and following the edge. Learning different decorative stitches. Sewing accurately with evenly spaced, neat stitches. Reflecting on their work continually throughout the design, make and evaluate process.		What is a blanket stitch and what is the purpose of it? How are soft toys made? What materials can be used to make a soft toy? What does the word taut mean? How do you ensure a soft toy is strong and holds the stuffing securely?
Previous knowledge	Current Year	Future learning
Year 1 /2 • Join fabrics together using pins, staples or glue. • Design a puppet and use a template.	• Design a stuffed toy, considering the main component shapes of their toy. • Create an appropriate template for their stuffed toy.	KS3 Textiles



• Join their two puppets' faces together as one. • Decorate a puppet to match their design Year 3/4 • Identify the features, benefits and disadvantages of a range of fastening types. • Write design criteria and design a sleeve that satisfies the criteria. • Make a template for their book sleeve. • Assemble their case using any stitch they are comfortable with	• Join two pieces of fabric using a blanket stitch. • Neatly cut out their fabric. • Use appliqué or decorative stitching to decorate the front of their stuffed toy. • Use blanket stitch to assemble their stuffed toy, repairing when needed. • Identify what worked well and areas for improvement.	
Vocabulary: appendage, blanket-stitch, template, detail, annotate, accuracy, evaluation, advertisement		